

## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



62.77

# PEDIGREEED SEED

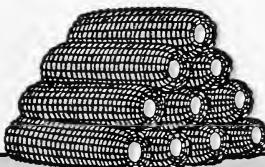
Determine Character

CATALOG  
of

COKER'S  
PEDIGREEED  
SEED  
BLOOD  
WILL TELL

TRADE MARK

Spring  
1923



PEDIGREEED SEED COMPANY

DAVID R. COKER, President

HARTSVILLE S.C.

**"When each farmer in a community can be induced to conduct a few accurate experiments each year, and exchange information with his neighbors, we will see a revolution in our agriculture that will astonish the world."—  
*D. R. Coker.***



Better the Seed Better the Crop



**DAVID R. COKER**  
President  
Pedigreed Seed Company

Plant breeder, farmer, merchant and cotton expert. Cotton and field seed specialist and exponent of agricultural progress. Founder and guiding spirit of Pedigreed Seed Company and its Breeding and Experimental Farms. After much experimentation and study he has written an enlightening article on boll weevil control. It appears on pages 2, 3, 4, 5, 6 and 7.



## THE BOLL WEEVIL A WORLD MENACE— Can He Be Controlled?

The world has not yet realized that it is confronting a really dangerous situation as to its cotton supply for the next few years. During the past two years the production of all kinds of cotton in the world has been about 31,500,000 bales while the consumption has been about 40,000,000 bales. The reserves, therefore, show a shrinkage of about 8½ million bales in two years. While this shrinkage of production has been partly due to weather conditions, its principal cause has been the ravages of insect pests of which the boll weevil is by far the most formidable.

The gradual recovery of the world from the effects of the Great War will naturally cause an increased demand for cotton goods, the primary clothing material of all nations. Even the present supply of cotton fabrics cannot be maintained during the next few years unless world cotton production is increased over 4 million bales per annum above the average of the past two crops. It is unlikely that Egypt, India, South America and other cotton producing countries can promptly increase their output under the most favorable circumstances as much as one million bales a year, even under the urge of very high prices. Can the United States promptly increase its production to above 13 million bales per annum and thus prevent an even more acute shortage than now exists? No one familiar with the history of cotton production in the United States during the past eight years will feel that this can be done unless effective measures for boll weevil control can be immediately and generally put into operation. The average annual production of American cotton from 1915 to 1922 has been about 11,000,000 bales, but during the past two years the average has dropped to less than 9 million bales per annum. Production in Georgia and South Carolina has been reduced about two-thirds and, if history repeats itself, North Carolina will show a heavy shrinkage during the next two years. Farm laborers in the central and eastern parts of the cotton belt are leaving the country by thousands because they have been unable to make enough under boll weevil conditions to feed and clothe their families, while attractive wages are being offered them in the central and northern states. Thousands of the land owners in the eastern belt cannot plant a fair acreage this year, even if ample labor were available, because they have already exhausted their resources and are on the verge of bankruptcy. Thousands of tax executions

are now in process of enforcement against landed property in Georgia and South Carolina. New capital in most cases cannot be obtained because of the lack of assurance that the farmer can produce crops with which to repay it. This sad condition in the eastern part of the belt could be changed almost immediately if the farmer and the banker could be assured that a reasonably effective means of controlling the boll weevil, at once simple, inexpensive, and easy of application, is available. Such a means is now available and can be applied to several million acres with the materials at hand for weevil control. The grounds for this statement are set forth in this article.

### OTHER METHODS OF WEEVIL CONTROL.

After many years of experimentation the Bureau of Entomology of the U. S. Department of Agriculture worked out a method of control which it was willing to recommend. The recipe which they recommended last spring called for the application to the cotton plant of large quantities of calcium arsenate in dust form at intervals of a few days between applications. The first application was not to be made until 10% or 15% of the squares had been punctured.

In practice the Government recipe has been found to require an average of not less than 30 lbs. of calcium arsenate per acre. The few who have been in position to use it have in most cases gotten profitable results. The Government method, however, was not available to the average cotton producer because of its expense, its requirement of night work and because it could not be successfully applied except under certain atmospheric and moisture conditions. The insuperable objection to the control formula advocated by the Government last spring, however, is that its requirement of calcium arsenate is so great that the available supply of this material will treat only a very small percentage of the acreage. According to the best information available from the Department of Agriculture on December 30th, the supply for next season's cotton crop will be about 7,500 tons, which, if distributed at the rate of 30 lbs. per acre, will treat only one-half million acres or one acre out of every seventy to be planted. This will not appreciably affect cotton production and holds out no hope as a corrective of the world cotton famine which appears to be pending.



A much more hopeful note has recently been sounded by Mr. Geo. D. Smith of the Florida Plant Board, who, in an excellently prepared bulletin entitled "A Preliminary Report Upon an Improved Method of Controlling the Boll Weevil", recounts a carefully conducted series of experiments which seem to prove that under the conditions prevalent in North Florida the weevil can be controlled at comparatively little expense.

Mr. Smith determined the approximate end of weevil emergence to be, for his locality, June 5. At about that date he strips from the cotton plants all forms or squares and immediately applies from 5 to 7 lbs. per acre of calcium arsenate in dust form which application destroys all the emerged weevils (except those already destroyed in the forms) and protects the cotton until weevil migration occurs. In the latitude of North Florida the crop is said to be practically mature at that time. Experiments with the Smith or Florida method should be undertaken in every cotton producing county in the South to determine its adaptability to other sections. It seems likely that the basic idea of the Florida plan (possibly in combination with other methods) may eventually prove of tremendous and widespread value, though it will take time to convince the average tenant farmer that there is merit in a method so radical. The Florida plan, however, using as it does 5 to 7 lbs. per acre of calcium arsenate, can, with the present calcium arsenate supply, be used on not over 3 million acres, which would still leave over ninety per cent of the crop untreated. Besides it must be thor-

oughly tested in all parts of the cotton belt before it can be generally advocated.

There is another method of weevil control, however, which has been very thoroughly tested in Georgia and South Carolina during the past two years. A considerable amount of experimental work still remains to be done on the details of this method, but the reports as to its cheapness, simplicity and effectiveness are so universal that no doubt remains in the minds of those who have investigated it with unprejudiced minds that it presents an excellent method of control within the reach of the humblest tenant farmer. This method is known as the calcium arsenate-molasses method.

#### OUR EXPERIENCE WITH WEEVIL CONTROL.

Our experience with the Government dusting method is briefly described. We secured expensive dusting machines, applied the calcium arsenate in dust form as per instructions and a few weeks later our cotton was simply covered with small yellow plant lice which we had never noticed before. These stripped the plant of most of its leaves, rained honey dew on the unopened bolls and open cotton, causing many of the bolls to rot or open prematurely and lowering the grade of the cotton. The crop was very seriously damaged by the lice, but a fair degree of weevil control was secured.

This past season (1922) we again dusted one field with calcium arsenate and the same reaction of heavy plant louse infestation occurred. We stopped



**This cut shows plot treated six times—June 13 to August 4 by mop and bottle method. Cost materials \$1.40. Yield 1238 lbs. seed cotton per acre.**



their increase, however, by an application of sulphate of nicotine, but not before they had done some damage. We know, of course, of many instances of the successful employment of the Government method, but our experience and that of a few others in this section indicate that there is an element of danger in dusting with calcium arsenate which we feel that we must mention.

We heard early in the summer of 1921 reports that a mixture of calcium arsenate, molasses and water was being effectively used by certain farmers in Georgia. We began using this in the latter part of July on one of our plantations, applying with a home-made spraying machine at the rate of 3 to 5 gallons per acre, through five nozzles. These applications gave us a good degree of weevil control without damaging the cotton in any way and a fair crop resulted.

This season we began using a molasses-calcium arsenate mixture on June 12, which was a week or ten days later than we should have begun as there were already punctured fours on the cotton. There were plenty of weevils on the young cotton at that time and within three days it was practically impossible to find a weevil anywhere.

Five planters in this section, all of them men of high standing, began using the molasses mixture from May 23 to May 30 and each observed the prompt disappearance of the weevils shortly after these applications were made. The names and addresses of these farmers are: J. W. Goodson, Hartsville, S. C.; A. H. Rogers, Society Hill, S. C.; J. C. McDuffie, Route 2, Bishopville, S. C.; and

W. A. and Geo. M. Stuckey, Bishopville, S. C. Many others began using the mixture from June 10 to June 20 and all noticed the prompt destruction of practically all weevils.

The applications were continued at intervals of about one week apart.

By means of this treatment, and some picking up of punctured squares which became necessary because we did not begin poisoning early enough, the cotton crop was carried to about August 1st with very little damage.

When migrating weevils began to appear we experimented with two methods of applying the molasses mixture. One was the application with a cloth mop of a few drops of the mixture to the upper third of the main stem. In passing from limb to limb to puncture the upper squares on the plant a large percentage of the weevils found the mixture, ate it and died. However, where the mixture was applied only to the leaves, we noticed little difference in the effect.

On certain plots treated six times from June 13 to August 4, all applications being made by the mop or bottle method, and the last two applications being made to the upper third of the main stem, we secured yields of from three-fifths to five-sixths of a bale per acre although the cotton was very heavily infested in early June. (See cut, preceding page). The land upon which these tests were made was stiff and moist and abutted on a thick woodland. The total cost for materials for these six applications did not exceed \$1.50.



Spraying Machine



On the larger fields, however, we found it in most cases more economical to make the later applications of the mixture by means of home-made spraying machines. One of these machines is illustrated on the preceding page. It consists of a two-wheeled cart with barrel spray pump, the discharge pipe of which is connected at center to a pipe across back of platform in which are spaced 3 to 5 spray nozzles at distances equal to the width of the rows. The spray bar is raised or lowered according to the height of the cotton and in the illustration is shown as rigged for our last spraying of cotton 4 to 5 ft. tall. Two hands and two mules are necessary to operate the machine and about 10 acres per nozzle can be covered per day, (i. e.: 50 acres for a 5 nozzle machine and 30 acres for a 3 nozzle machine).

The materials necessary for the construction of this machine on an ordinary cart with tongue and flat bed are about as follows:

1 orchard spray pump (We use Myers No. 305-B) .....	\$16.00
3 spray nozzles (We use Graduating Vermorel Fig. 1564) .....	2.25
1 strong barrel.....	1.50
2 pieces $\frac{1}{4}$ " piping 4 ft. long.....	.63
Two $\frac{1}{4}$ " ells.....	.20
Two $\frac{1}{4}$ " Ts.....	.20
Three nipples.....	.25
One $\frac{1}{4}$ " globe valve.....	1.10
One $\frac{1}{4}" \times 1"$ nipple.....	.05
Total.....	2.43

\$22.18

On August 21st we sprayed with this machine some cotton planted the latter part of April, which is late for this section. Four weeks later, although three rains aggregating about  $1\frac{1}{2}$  inches had fallen in the meantime, the calcium arsenate was plainly evident upon the leaves. In one of the fields sprayed August 21st a few rows on one side of the field were left unsprayed. This entire field had been poisoned on August 4th. Between September 9th and September 23rd several hundred unopened bolls were examined, half from the cotton sprayed August 21st and half from the rows that were not sprayed on that day. More than twice as much boll weevil damage had occurred on the bolls from the cotton not sprayed since August 4th. Migrating weevils were plentiful in this field August 21st and could be found continuously on the cotton after that date, but the August 21st spraying killed off these weevils fast enough to protect a large proportion of the immature fruit.

In another field of about 15 acres planted with a strain of our Deltatype Webber and in which there was practically no weevil damage August 1st, due to the early season applications of the molasses mixture, a heavy invasion of outside weevils

came in during the first few days of the month. On August 5th this field was mopped by the central stem method and this was repeated on the 12th. Rain fell on every day but three between the 6th and the 20th. On the 21st this field was sprayed with the molasses-calcium arsenate mixture and produced as follows: First picking, September 7th, 3975 lbs.; second picking, September 16th, 8905 lbs.; third picking, September 26th, 7640 lbs.; fourth picking, October 7th, 4700 lbs.; total, 24320 lbs. The estimated outturn of this field (including the sale of a part of the crop at  $33\frac{1}{4}$ c per lb.) is over \$200.00 per acre. It is evident that the entire final picking of over three bales was due to the protection afforded by the poisoning of August 21st.

Although our work this year with the molasses-calcium arsenate mixture was largely experimental, we having used many different mixtures and applied it in many different ways and at varying intervals, and although the season has shown the most frequent rainfall ever known in this section, and the weevil infestation was in most fields very heavy when poisoning was begun, we succeeded in averaging on our farms fully two-thirds of a normal crop, the yield of course varying very much with the drainage and natural fertility of the soil. Everywhere, however, the good effects of the poison were evident although the applications were frequently followed by rain within 24 hours. Between May 14 and August 20 there was measurable rainfall on 51 different days and traces of rain on 7 other days. The total rainfall here for the year 1922 was 66.46 inches, whereas the average annual rainfall in this section is between 45 and 50 inches. We could not have averaged a full crop if no boll weevils had been present. We poisoned only a small proportion of our acreage after August 5th, though we now know we should have continued the applications until late in that month.

## EXPERIMENTS

It was difficult to do accurate experimental work under the very wet conditions which prevailed here this year, but nevertheless some significant experiments were carried out by several of our men. Space will not permit the recounting of these experiments in detail, but the following is a summary of some of them:

Field near Pedigreed Seed Company's gin and warehouses, poisoned June 12th. Many weevils could be found at time of poisoning. On the 14th twenty hands in charge of overseer were sent into



# Better the Seed Better the Crop

field to look for live weevils, searched carefully over 7 acres without finding a single live weevil although they were finally offered 10c apiece for any weevils found.

Mr. Geo. J. Wilds, on June 10th, put live weevils on plants poisoned with molasses mixture in open field. About half disappeared from the plants, but of those remaining nearly all were killed by the poison.

Mr. J. B. Norton conducted many tests with weevils confined in cages and boxes. Results indicated that molasses and other sweets possessed some attraction for weevils. A high weevil mortality resulted in all cages in which calcium arsenate was applied, whether in dust form or in sweetened mixtures. Weevils readily fed on the sweetened poison when they found it.

Mr. Norton also carried out in early November a test to try to find out the minimum amount of calcium arsenate in a mixture of molasses and water that would be fatal to weevils. The basic mixture employed consisted of half each black molasses and water with 8 ounces of calcium arsenate per gallon. Against this were tested mixtures containing one-half, one-fourth and one-eighth the amount of calcium arsenate, and a check test to which only the plain molasses-water mixture was applied. It was found that the mixture containing most calcium arsenate killed the weevils more rapidly in the earlier stages of the experiment, but within three days the mortality in the boxes containing the weaker mixtures rapidly caught up with that of the strongest mixture and at the end of 4½ days the results were practically the same, with a mortality of 95 to 100 per cent. in every box except the unpoisoned one in which 80 per cent. of the weevils were alive. While this test was not sufficiently comprehensive to draw absolute conclusions from, it suggests the possibility of controlling the weevil with very small amounts of calcium arsenate, and points plainly to the necessity for comprehensive experimentation to determine the minimum amount of calcium arsenate which will afford effective control. The necessity for such experimentation is further proven by the fact that many different mixtures, varying widely in the percentages of both calcium arsenate and molasses, have been employed by different farmers and that all of these mixtures are claimed to have destroyed the weevils.

We have letters or statements in our files from Mr. G. M. Norris of Vance, Orangeburg County, S. C.; Mr. J. T. Kaminer, Lexington, S. C., Rte. 2; Dr. W. C. Brown, Newberry, S. C.; Mr. H. E. Mar-

tin, Athens, Ga.; Mr. Jas. A. Gilliam, Mr. W. A. Calvert, Mr. W. A. Calvert, Jr., and Mr. Toland H. Watson of Abbeville, S. C.; Mr. Jas. W. Goodson of Hartsville, S. C.; Mr. F. G. Hollis of Bennettsville, S. C.; Mr. A. G. Wise of Prosperity, S. C.; Mr. C. B. Hay of Sumter, S. C.; Mr. K. G. Yonce of Ridge Spring, S. C.; Mr. L. J. Hames of Union, S. C.; Mr. B. T. Boatwright of Johnston, S. C., and Mr. G. C. Turner of Denmark, S. C., and from a number of other farmers all of whom report the successful employment of the calcium arsenate-molasses treatment.

Reference to the files of the newspapers of South Carolina and Georgia will show that many others have been successful with it and have noted its prompt and deadly effect.

## RECOMMENDATIONS

Based on our own experience and that of many other farmers in this section with whose results we are familiar, we recommend the following poisoning treatment for cotton this year:

Shortly before the first squares appear, apply to the terminal buds of the young cotton three or four drops per plant of a mixture of one pound of calcium arsenate, one gallon of water, one gallon of cheap molasses. Thoroughly mix the calcium arsenate with the water before adding the molasses and apply with small cloth mop or with long necked quart bottle with small opening in cork. We especially recommend the bottle method because the amount can be absolutely regulated, the drops of liquid can be shot into the bud with some force and the plunging motion necessary to discharge the liquid keeps the mixture thoroughly stirred. Repeat the applications weekly until the end of weevil emergence, which will be about June 5th in the southern part of the belt, and at least one month later along the upper limits of cotton production. Applications beginning the last of May and continuing until the last of June were found very effective in this section last season. If the mixture is promptly washed off by rain, it should be reapplied at once. Four to six applications should be sufficient to take care of the entire crop of over wintered weevils. About one gallon of the mixture is sufficient to cover one acre and one hand can apply to 4 acres per day. The entire cost of the materials for the early season applications should run from about 60 cents to \$1.25, depending on cost of materials and number of applications necessary. No applications of poison after the end of the pe-



riod of weevil emergence would be necessary if the above recommendations should be put into universal effect, for the period of weevil migration would be postponed for at least thirty days from its usual time and they would do little damage when they finally arrived in force.

There is, however, little chance for the molasses-calcium arsenate method to be put into very wide operation this year because the Government method of control has been so widely advertised that it will probably be more largely used than any other method, and because those who expect to use the dusting method have already bought up a large proportion of the available supply of calcium arsenate which will probably be unobtainable very shortly even at high prices. The weevil migration, therefore, will probably occur at the usual time in most sections.

We would recommend that, after the conclusion of the series of applications for the destruction of the early crop of weevils, the planter make a careful weekly inspection of his entire acreage and if an occasional spot is found where a weevil, which has escaped the early poisoning, is at work, that the spot be carefully and immediately poisoned.

No further poisoning should be necessary until migrating weevils begin to appear, which will be from the latter part of July to the latter part of August, varying with the locality. As soon as these are discovered, poisoning should actively begin again. The mop method, using about two gallons per acre of the same mixture previously used, should be employed by the farmer who cannot afford the machine illustrated in this article. For the farmers using machine illustrated on page 4, we recommend the application of 3 to 5 gallons per acre of a mixture of 8 gallons of water, 2 gallons of molasses, and 5 lbs. of calcium arsenate. Applications should continue about once weekly until cotton begins to open.

While we believe that poisoning of the weevil is by far the most important single factor for crop production in average seasons, we would not have our readers get the impression that we think it is the sole factor. On the contrary it is definitely known that certain varieties of both staple and short cotton are much more productive than others under weevil conditions. Earliness of maturity and the early arrival of the young boll at a stage of toughness and thickness of hull which will resist the puncture of the weevil, are the two characteristics

which seem to make a variety partly immune to weevil attacks.

The farmer cannot afford to neglect such other important factors as early fall destruction of the cotton stalks, early and thorough soil preparation, early planting, thorough and rapid culture, and (in the eastern cotton states) an adequate ration of fertilizer containing 300 to 500 pounds of acid phosphate per acre, a moderate amount of quickly available ammonia and some potash (except on clay soils). Nor can he afford to plant a greater acreage than his available labor can tend and poison and can harvest with reasonable promptness.

While our whole organization has been largely occupied for the past thirteen years in the production of varieties of cotton to withstand weevil conditions, the writer has devoted almost his entire time and attention to the subject of weevil control for the past seven months and has had the assistance of several of our scientific experts in these studies. We would have our readers remember that although we are spending many thousands of dollars each year in this and other forms of experimental work, we are not receiving one penny of state or government aid and have no object in advocating any method of weevil control except the improvement of the condition of the cotton planter. It makes no difference to us personally what method is finally adopted, for we are not promoting any patented machine or secret nostrum for weevil control.

We are advocating a method of poisoning which our experience has shown to be cheap, simple and reasonably effective and which, because of its small requirement of calcium arsenate, can be widely used.

We hope further experience will enable us to improve and cheapen our control methods; if so we shall let it be known. We would advise our friends to secure at once, if possible, about 6 lbs. of calcium arsenate for each acre of cotton they propose to plant and to use it in accordance with preceding directions. Even if the farmer can secure only one or two pounds per acre it will greatly benefit him if he will use it in a mixture with molasses and water in two or more early season applications.

**PEDIGRED SEED COMPANY,**

By

*Daniel R. Coker*

President.



## HOW WE BREED PEDIGREE SEED

The method of pedigree breeding pursued by this Company is in general the **plant-to-row method** and is recognized by plant breeders and experiment stations as the only sure method for the improvement of annual plants.

The plant breeder, like the animal breeder, must make the individual the unit of selection, and in the plant-to-row method this idea is carried out. A pedigree strain of seed is a pure family descended from a single superior prepotent plant, each plant of which family would be eligible to registration, and certain individuals selected may be of as great or greater value to industry than the finest animal ever sold.

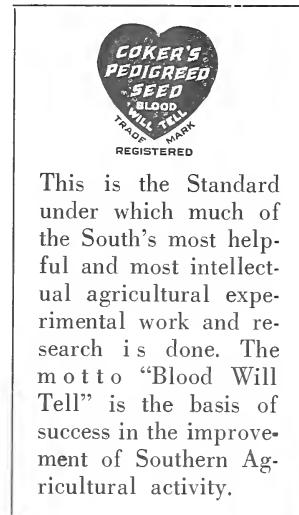
It is the plant breeder's task to find these prepotent plants; isolate, increase, keep pure and establish their claims to prepotency through a series of years of accurate, carefully conducted testing. In judging a plant by the performance record of its progeny we at the same time judge the value of both the male and the female parent of the progeny. Its performance record and that of its parent strain is its pedigree.

For example, in producing a pedigree strain of a given variety of cotton we start with a large number (400 to 500) of the very best individual plant selections, each being picked in a separate bag and

numbered consecutively. After combing, stapling and ginning each plant, those plants that do not measure up to the standard set for the variety in length, per cent. of lint, size of boll or yield, etc., are discarded. The remaining one to three hundred are planted the following year in a plant-to-row test. In the test, which must be on uniform soil, one or more rows are planted from each individual. The rows are the same length, have the same number of hills, and each the same amount of fertilizer.

During the growing season the rows are studied from time to time and all differences noted. For example, total bloom and open boll counts are made up to certain dates on each row, which data indicates season of maturity. When sufficient cotton is open all rows are carefully examined with reference to productiveness, length

of staple, uniformity of type and all important characters, and a judgment made as to which are the best rows. Plants are selected on these best rows to continue the pedigree breeding in the following year's plant-to-row test. A representative fifty boll sample is then taken from each row and ginned on a small roller gin and the per cent. of lint, length of lint, and bolls to pound determined. A total yield record is then obtained for each row and the best 5 to 8 rows that make the highest yield, with other desired qualities, are retained, and all others discarded.



Strikingly Early Progeny in Our 1922 Plant-to-Row Test of Deltatype Webber.



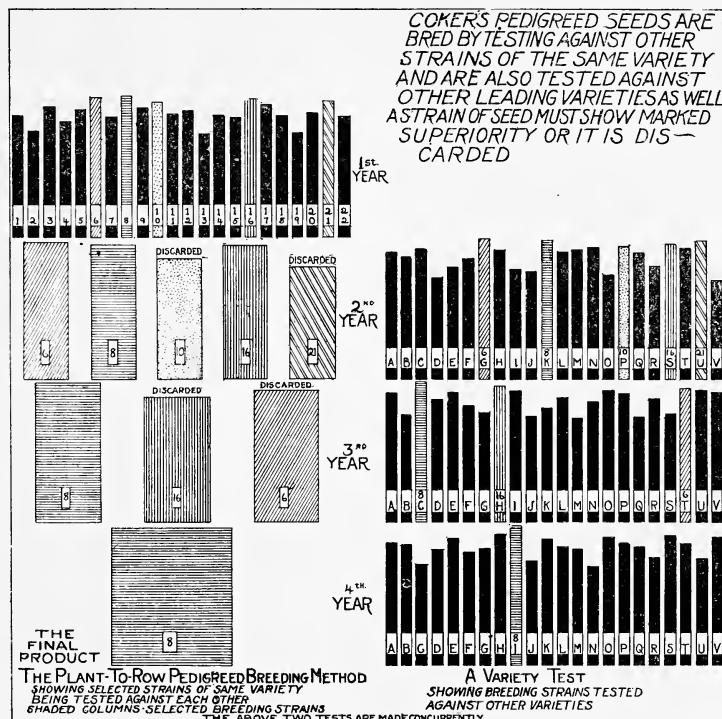
## SEED BREEDING GRAPHICALLY ILLUSTRATED

A better understanding of the procedure from this point can be had from a study of the accompanying chart, which graphically illustrates the method of breeding that has been used by this Company for twenty-one years. The first year illustrates the plant-to-row test including only 22 cotton plants because of space. The height of the different columns illustrates the comparative value of the different rows or progenies, as determined by yield and value. Five superior families or progenies are chosen for further increase and trial. In this case rows 6, 8, 10, 16, and 21, and all the others are discarded.

The second year seed from each of the five selected families is planted in a variety test, where they are grown in competition with many varieties, both long and short. The remaining seed of each is planted in from one-third to one-half acre increase blocks. At the end of the second year No. 10 and No. 21 are discarded. The remaining families, Nos. 6, 8, and 16, of which No. 8 seems to be the superior one, are tested and increased again in like manner the third year, at the end of which 6 and 16 are discarded as inferior. No. 8, which is retained, has been demonstrated to be the superior strain of all those selected.

The fourth year No. 8 is again tried in the variety test and a large increase plot is grown to furnish seed to be used in growing the general seed crop.

Each year with each variety that we breed we have the whole series of plots as illustrated in chart, i. e., plant-to-row, first year, second year, third year, and fourth year increase blocks. Starting each year with a large number of the best plants selected from the best rows of the preceding year's plant-to-row test, all are gradually eliminated through carefully conducted tests but that one prepotent progeny descended from the best plant selected four years previously, which becomes the parent of the newest pedigree strain of the respective variety. In all breeding work accurate



records are kept of every individual strain, and we are able to trace the ancestry or pedigree of any strain back to the original plant first selected, and as the selected plants are each year taken from the best progeny in our plant-to-row test the pedigrees of our different strains are continuous.

### OUR SEED

The seed we offer for sale as our own strains represent the cumulative results of twenty-one years' scientific work in selecting and breeding field seed by the plant-to-row method. During this time our seed have been planted and tested in every Southern State with results which have shown conclusively that Coker's Pedigree Seed make bigger yields and better quality than ordinary seed.



This trade mark is your insurance that the seed which it accompanies is safe, pure, and of the best quality. Just look for the Red Heart. "Blood Will Tell."



# Better the Seed Better the Crop

## COKER'S PEDIGREED SEED ARE CAREFULLY HANDLED AT EVERY POINT

### RECLEANING AND GRADING

In addition to proper breeding of seed, we require also that our seed shall be **sound, vital, and properly graded.** No matter what the breeding or pedigree of the seed may be it is an inferior product if it is full of trash, immature seed and broken grains.

It is, of course, quite expensive for a seedsman to thoroughly grade his seed and discard all of the lower grades, as the discarded parts cannot be used except for feed purposes. But the difference in actual value of well-graded seed is so great that farmers everywhere should insist that all seed they buy be carefully and properly graded.

### SEED ARE THOROUGHLY CLEANED

Our Seed Cleaning Department is operated under this instruction: "**Every lot of seed must be recleaned and graded, removing all light, immature and broken seed and all trash, dirt and foreign matter.**" This rule is rigidly enforced even though it means at times a large loss to us. In grading oats, for instance, we sometimes remove 25% in order to bring the product to the high standard of our requirements. Our machine on which most of our grain is graded, is a double decked, four-screen vertical air-blast machine of the most approved type, and does as perfect work as any similar machine to be found.

We also carefully reclean and grade all of our cotton seed. Our gins are fitted with special grading machines through which all cotton seed pass. We

do this at additional expense because we have proven conclusively that it handsomely pays the planter.

### GERMINATION TESTS

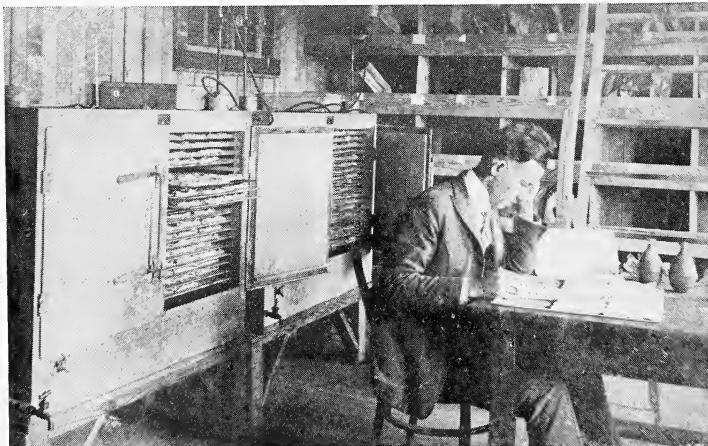
No matter how well bred or carefully handled a seed may be, its value for planting is only in proportion to its **germination percentage.** If a seed will not sprout, it is naturally of no value. In order to determine accurately the germination of our seed, and guard against the shipment of seed of low vitality, we have installed in our laboratory four of the most approved types of Electric Germi-nators. In adopting this apparatus, we have followed the lead of the U. S. Department of Agriculture at Washington. Samples of every lot of seed we handle are **tested** with this apparatus and the percentage of germination accurately determined. Any falling below the high standards set by us are discarded.

It is needless to say that we would not go to the trouble and expense of testing all of our seed if we were not thereby better serving the interest of our customers.

### PURITY TESTS

On every bag of seed a tag is attached which gives in figures, based on our tests, the actual percentage of germination and purity above which we **guarantee** that particular bag of seed. Any failure of the seed to prove up to the figures we give, lays us liable under the State Seed Inspection Laws. The value of such information and the laws behind it is apparent. Our own standards are equal to or above the high standards recommended by the State authorities.

During their stay in our warehouse all seed are carefully examined frequently by seed experts to insure their vitality until they are shipped. Wherever there is any question of a loss in vitality, additional germination tests are conducted. As a final proof of our confidence in our seed, we have adopted a trade mark which is registered in the United States Patent Office, which we use on our finest seed. This trade mark stands for us and our reputation and wherever it is placed it is our guarantee of highest quality.



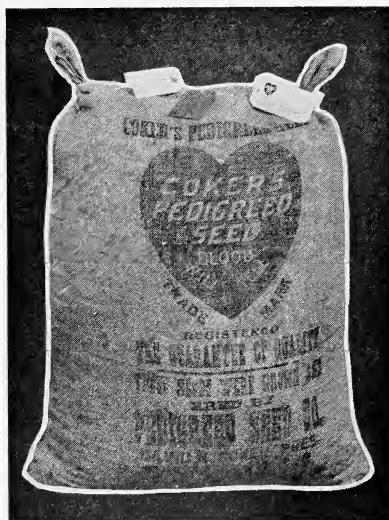
One Corner of the Germinating Room Showing Two of Our Large Germinators



## FOR YOUR PROTECTION

Coker's Pedigreed Seed are sold only under our registered trade mark and official O. K. as reproduced below. This Company has been in operation nine years, but the pedigrees of nearly all of our special strains and varieties date back to the original breeding work conducted by our President for many years before the formation of this Company. The pedigree of the Webber cottons is really continuous with that of the Columbia cotton bred by Dr. Webber while in the service of the National Department of Agriculture more than twenty years ago.

Our success has stimulated the formation of numerous other companies that claim to supply pedigreed seed. To all these who are doing honest scientific work and distributing seed with genuine pedigrees we wish success. We have often been unable to meet the southern demand for our seed and believe that legitimate competition is the life of trade. An ample supply of pure pedigreed seed and the accumulation of adequate and accurate agricultural knowledge by careful experimentation are absolute essentials to the success of agriculture.



A Bag of Coker's Pedigreed Cotton Seed Ready for Shipment.

Some companies, however, are selling what is claimed to be pedigreed seed of the varieties we have originated. Some are using names, trade marks, and literature which are more or less similar to our own and which have caused confusion in the minds of some of our customers. We think that most of our customers will detect any efforts to capitalize on our reputation and will unanimously condemn any practices which do not conform to the highest ethics of trade.

We call especial attention to the fact that the new strains of our varieties are put out each year under advanced numbers indicating new strains and progress in breeding. Our competitors offering seeds originated by us are of course selling stocks from our older strains which do not equal our newer strains in pedigree or performance record and which, even if raised under the

best conditions, have begun to deteriorate in some of their characteristics. You can secure the latest and best fruits of our scientific work only by buying each year some seed of our newest strains.

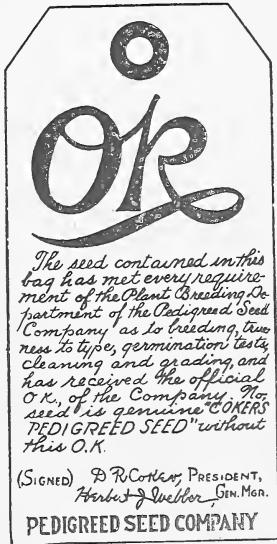
**Our seed are all sent out in bags labeled "Coker's Pedigreed Seed" and bearing our registered trade mark.** All of our Pedigreed seed also bear the O. K. tag of our President and are officially sealed before leaving our warehouse. No seed is genuine "Coker's Pedigreed Seed" unless it bears our official O. K. under seal and our registered trade mark. Do not be deceived. Insist on having genuine Coker's Pedigreed Seed.

### BUY YOUR SEED FROM HEADQUARTERS.

Seed of all grades are offered. Bad to poor; good to best. There is but one best—the kind that are scientifically bred for highest qualities—the only kind we offer. Your crop cannot be better than the seed you use. Do not take a chance. **Buy Your Seed Direct From Headquarters.**

THIS TRADE-MARK, which is registered in the United States Patent Office, appears on every bag of genuine "COKER'S PEDIGREE SEED" sent out by the Pedigreed Seed Company. Look for this trademark and protect yourself against inferior imitations.

PEDIGREED SEED CO.,  
Hartsville, S. C.





## CHART SHOWING STAPLE COTTON PRICES

For Past Eleven Years—Hartsville, S. C., Market

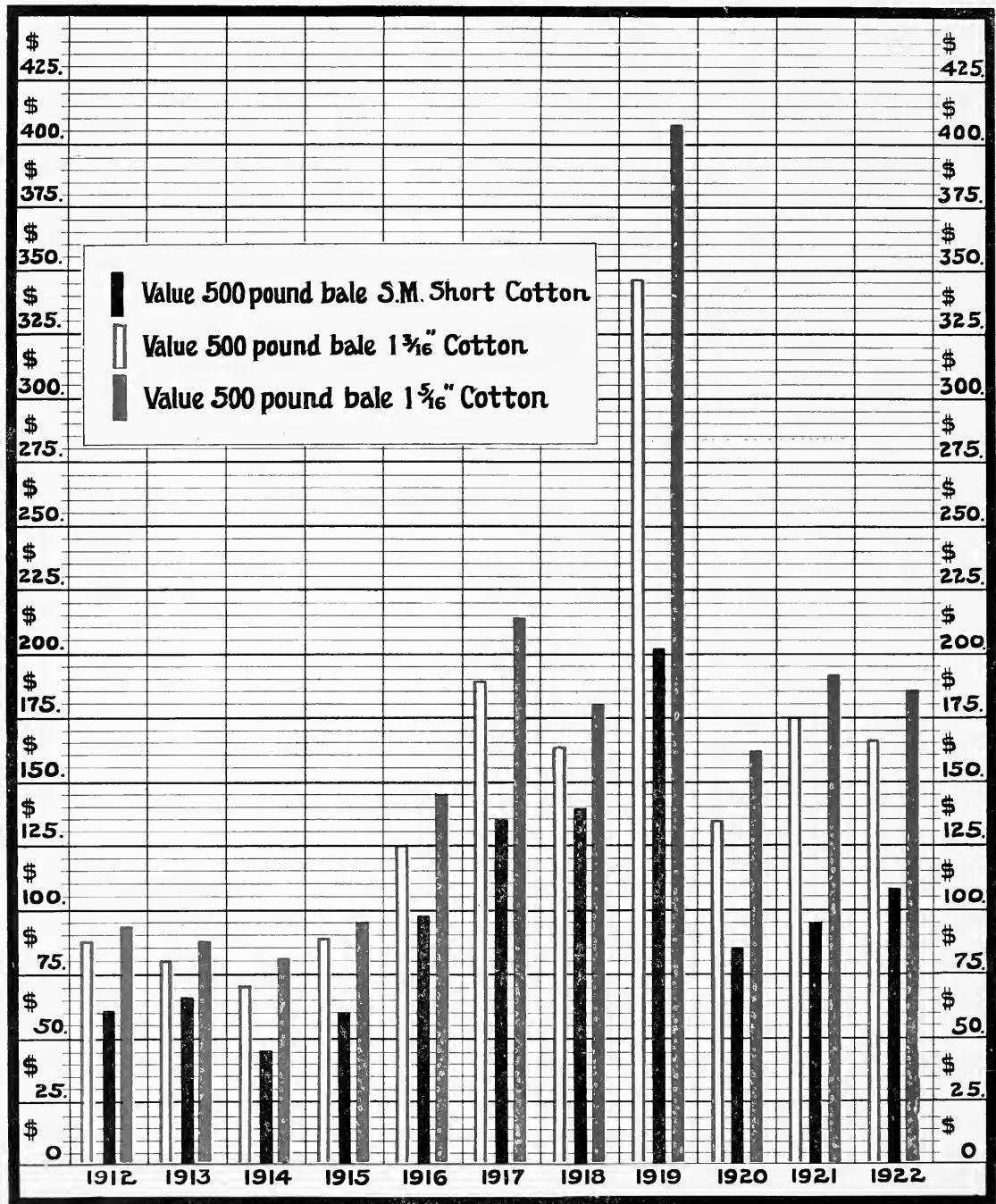


Chart Graphically Illustrates Actual Value of 500 Lb. Bales of  $1\frac{3}{16}$ "— $1\frac{5}{16}$ " and short Cotton Based on Actual Average Prices Paid on Hartsville, S. C., Market 1912—1920; being Average Price for November, and 1921 and 1922 Average Price for October for Each Year Respectively. (See Note at Bottom of Opposite Page.)



## THE PROSPECT FOR STAPLE COTTON

There are many planters who are now in a quandary as to whether to plant short or long staple cotton in 1923. In order to enable them to come to a decision we have printed on the opposite page a graphic diagram and also table at the bottom of this page, showing the actual values of short cotton,  $1\frac{3}{16}$ " cotton and  $1\frac{5}{16}$ " cotton during a typical marketing month for each of the past 11 years. During that length of time the average premium of  $1\frac{3}{16}$ " cotton has been 46.44% and of  $1\frac{5}{16}$ " cotton 65.28%. The lowest premiums were seen in 1918 when the premium on  $1\frac{3}{16}$ " was 15.82% and on  $1\frac{5}{16}$ " 28.29% and in 1913 when the premium for  $1\frac{3}{16}$ " was 19.23% and for  $1\frac{5}{16}$ " 32.70%.

It is true that just now the staple cotton market is dull and the premium on  $1\frac{3}{16}$ " is only about 20% and on  $1\frac{5}{16}$ " about 35%. It is also true that staple cottons have been difficult to sell during November and December. We have never known a year, however, when there was not at some time during the season a premium of 20% to 30% on good grade staple cotton. In October last the premium on  $1\frac{3}{16}$ " was over 50% and on  $1\frac{5}{16}$ " over 70%.

The present low premiums and slack demand, if

they prevail until planting time, will induce many farmers to substitute short for long cotton. That will create an automatic scarcity and we may expect better premiums next fall. Even, however, if the premiums should be no greater than an average of 25% next fall, the grower of staple cotton who is careful to plant a productive uniform variety and prepare it properly will make a greater profit than if he plants short cotton.

We have never advised anyone to grow staple cotton who would not take the pains with seed, culture and preparation to produce a good quality and who was not in position to market his cotton in a sensible way.

We have no fear for the future of the staple industry. As prosperity returns to the world the demand for fine goods will increase and the planter who knows the staple industry but who quits every time the premium is comparatively low and the market dull will usually miss the mark.

Make the raising of staple cotton a specialty. Study it, learn all of its fine points and stick to it year in and year out. You will not have cause to regret such a policy.

DAVID R. COKER.

TABLE SHOWING ACTUAL VALUE OF 500 LB. BALES OF  $1\frac{3}{16}$ "— $1\frac{5}{16}$ " AND SHORT COTTON. PRICE PER POUND AND DIFFERENCE 1912—1922.

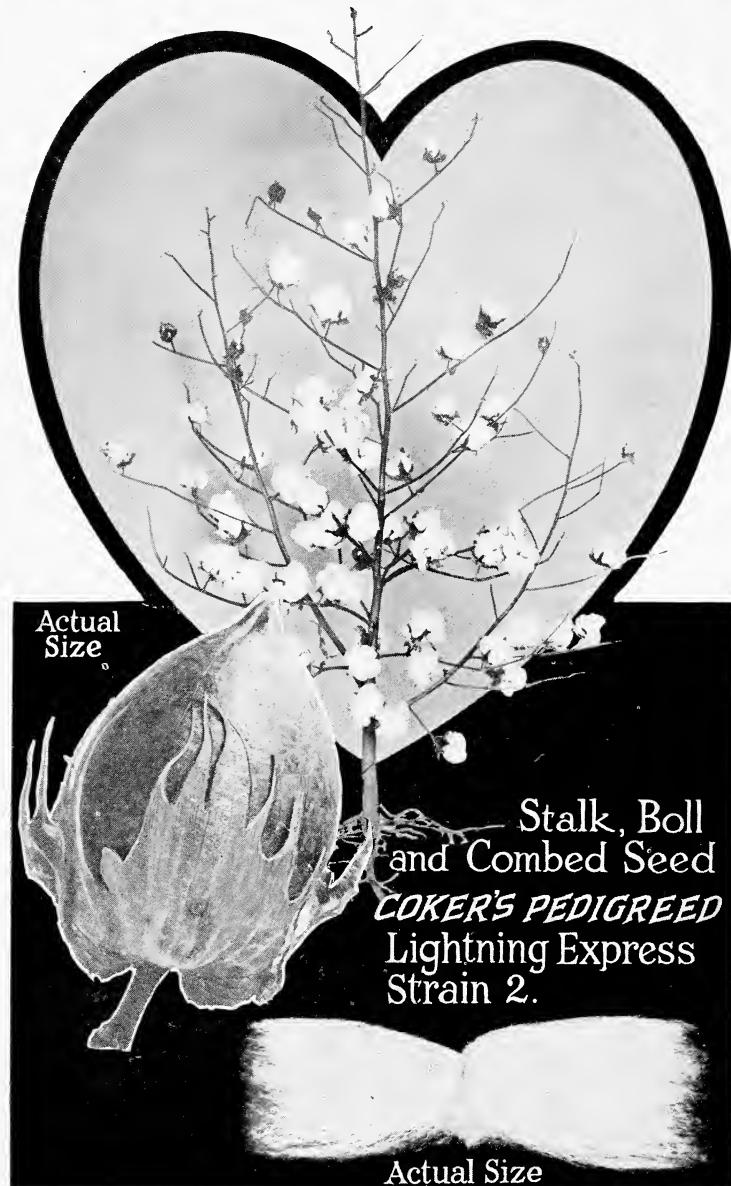
Based on Actual Average Prices Paid on Hartsville, S. C., Market 1912—1920, being Average Price for November, and 1921 and 1922 Average Price for October for Each Year Respectively. (See note at bottom of page.)

Year	Price Per Lb. (cts.)	Price Per Lb. (cts.)	Price Per Lb. (cts.)	Value 500 Lb. (cts.)	Value 500 Lb. (cts.)	Value 500 Lb. (cts.)	Premium 1 3-16 in. Bale	Premium 1 5-16 in. Bale	Premium 1 3-16 in. Bale	Per Cent. Increase 1 3-16 in.	Per Cent. Increase 1 5-16 in.
	1 3-16 in.	1 5-16 in.	Short	1 3-16 in.	1 5-16 in.	Short	Bale	Bale	Bale		
1912.....	17.00	18.50	12.00	\$ 85.00	\$ 92.50	\$ 60.00	\$ 25.00	\$ 32.50	40.17	54.17	
1913.....	15.50	17.25	13.00	77.50	86.25	65.00	12.50	21.25	19.23	32.70	
1914.....	14.00	15.75	9.08	70.00	78.75	45.00	25.00	33.75	55.55	75.00	
1915.....	17.50	19.00	12.00	87.50	95.00	60.00	27.50	35.00	45.83	58.33	
1916.....	25.00	29.00	19.50	125.00	145.00	97.50	27.50	47.50	28.21	48.72	
1917.....	37.80	42.80	27.00	189.00	214.00	135.00	54.00	79.00	40.00	58.52	
1918.....	32.43	35.92	28.00	162.15	179.60	140.00	22.15	39.60	15.82	28.29	
1919.....	69.58	81.59	40.52	347.90	407.93	202.60	145.30	205.33	71.22	101.35	
1920.....	27.00	32.00	17.00	135.00	160.00	85.00	50.00	75.00	58.82	88.24	
1921.....	35.00	38.50	19.00	175.00	192.50	95.00	80.00	97.50	84.21	102.63	
1922.....	33.00	37.00	21.75	165.00	185.00	108.75	56.25	76.25	51.73	70.11	
11 year average....	29.44	33.39	19.89	\$147.19	\$166.95	\$ 99.44	\$ 47.75	\$ 67.52	46.44	65.28	

NOTE. During the past two years since the advent of the boll weevil the early staple varieties such as Deltatype Webber, Webber 49 and Lightning Express have been planted. This has thrown the period of heaviest marketing at least one month earlier. October is therefore the most representative marketing month in this section now.



## COKER'S PEDIGREED LIGHTNING EXPRESS—Strain 2



### DESCRIPTION

Lightning Express Strain 2 retains all the desirable qualities of Strain 1, yet is more uniform in type, has smaller weed, closer fruiting habits and a better yield record. It has open foliage, the best of picking qualities and is the earliest of all the staple varieties. Its extreme earliness makes it exceptionally valuable for planting under boll weevil conditions, for which it is particularly recommended.

PRICES: Per bushel \$5.90; ton lots \$5.75 per bushel; 15 ton lots \$5.60 per bushel.

Staple—1 3-16 to 1 1-4 in.  
Per cent of lint—30.75.  
Season—Earliest.  
Bolls per lb.—69.  
Type of plant—Open.  
Picking quality—Best.

### EXPRESS COTTON

Express Cotton was bred and introduced by Dr. D. N. Shoemaker, of the U. S. Department of Agriculture. The original selections were made in 1904, in a field of Bohemian cotton, at Paris, Texas.

### LIGHTNING EXPRESS

In 1917 we secured from Mr. E. C. Ewing small quantities of seed of two of his Express selections, namely, 28-350 and 28-341, bred while he was connected with the Mississippi Agricultural Experiment Station. Increase blocks were grown from each strain that year and all **promising plants** selected and put in breeding plot in 1918. Our two strains of Lightning Express are from Express 28-350, but they are as distinctly different from the parent as our Webber 49 and Deltatype cottons are from the original parent Webber.

### STRAIN 2

A **new strain** of this valuable variety descended from the best row in our 1919 plant-to-row test of this cotton. In our 1920 variety test, which included 61 varieties and strains of long and short cottons, Lightning Express Strain 2 ranked second

in early yield and eighth in total yield, making 156 pounds seed cotton more than King in early pick and 149½ pounds more in total pick. In increase block 1920 it was by far the most striking progeny, and in larger fields in 1921 it made some of our best yield records. On our general farms 1922, even **under heaviest weevil infestation and most adverse weather conditions**, it has averaged about 2-3 of a bale per acre.



## COKER'S PEDIGREED LIGHTNING EXPRESS—Strain 1

**Staple—1 3-16 to 1 1-4.**

**Per cent lint—30 to 45.**

**Season—Very Early.**

**Size of Boll—69 to Lb.**

**Type of Plant—Erect and Open.**

**Picking Qualities—The Best.**

That this **superior pedigreed strain** of Express first offered to our customers the past season, has met with very general approval is shown by many letters that we have on file from **satisfied growers** throughout the Cotton Belt. Descended from the outstanding row in our 1918 plant-to-row test of Express, it has maintained its good qualities of **extreme earliness, heavy yielding ability, staple length and uniformity**. The lint is of the **very best character**, giving a uniform, smooth pull that is preferred by Hartsville buyers to any cotton of the same length.

### WILT RESISTANCE

Lightning Express, while not recommended by us for planting on wilt infested lands, yet has shown some wilt resistance. Several growers in this immediate section made good yields on infested lands that ordinarily show considerable loss with non-resistant varieties.

**PRICES:** Per bushel, \$3.75; ton lots, \$3.65 per bushel; 15 ton lots, \$3.50 per bushel.



**Plant-to-Row Test Lightning Express—Strain 1.**

Do not confuse Strains 1 and 2 of our Lightning Express with other strains of Express. These cottons are pure families and while they are descended from Express 28-350 yet they are in essential characteristics distinctly different, as the above breeding rows strikingly illustrate, in point of early maturing. They are also more uniform in type, have longer staple, higher per cent lint, thinner foliage, larger bolls and higher yield records.

### RECORD

Lightning Express produced the greatest yield of seed cotton of any other variety either short or long in the 1922 variety tests both at the State College of Agriculture, Athens, Ga., and the Georgia Coastal Plain Experiment Station, Tifton, Ga. Lightning Express stood first in total yield at the South Carolina Experiment Station, Clemson College, S. C., and ranked first in money value at the Pee Dee Experiment Station, Florence, S. C. In five co-operative tests made in different sections of North Carolina by the State Experiment Station at Raleigh, Lightning Express stood first in total yield in one, ranked first in money value in another, and outyielded all other staple varieties in the other three. All reports for 1922 have not been received as this catalog goes to press, but the above are sufficient to establish a most remarkable record for Lightning Express. This splendid record has been achieved notwithstanding the exceptionally low premiums prevailing this season. If history repeats itself premiums will be restored next fall as we have never known staple premiums to remain as low as they are today two years in succession. With premiums back to normal or above this fall, the 1923 record of Lightning Express will even surpass its own excellent record for 1922 in money value by many dollars per acre.



### OUR AIM

We do not intend even to produce cheap seed. We originate new and better varieties and produce the best seed available of those varieties. We always breed for highest quality and such quality cannot be had at a low price.



# Better the Seed



# Better the Crop

## COKER'S PEDIGREED WEBBER 49—Strain 6



Bolls large, round ovate, 65 to pound. It opens wide and picks easily. Lint under good conditions  $1\frac{1}{16}$  to  $1\frac{3}{8}$  inches. Season is earliest of any of the Webber cottons. Young plants are vigorous, make a good start and hold it through the season. Mature plants are low, spreading in type, flat topped and the smallest of any of the Webber 49 series.

**PRICES:** Per bushel \$6.00; ton lots \$5.90 per bushel; 15 ton lots \$5.75 per bushel.

**Staple**—1 5-16 to 1 3-8 in.  
**Per cent**—32.7 (5 year av.)  
**Size boll**—65 to pound.  
**Season**—Early.  
**Picking quality**—Good.

This new strain is the best ever bred from our now deservedly famous Webber 49 cotton. It is descended from the best progeny in our 1918 plant-to-row test of this variety, and has shown continued superiority over the parent and other strains of this cotton. In our 1919 and 1920 variety tests that included 61 of the best varieties and strains of long and short cotton, Webber 49-6 ranked first in total value of seed and lint per acre both years. The net dollar return per acre is the final measure of any variety.

### HIGH PEDIGREE

Not only has Webber 49 Strain 6 shown up well in variety tests and in increase blocks, but the majority of our promising strains in breeding tests and increase fields not yet ready for introduction, are from this strain. This shows further that Strain 6 is descended from a prepotent individual that is transmitting its good qualities from generation to generation. Its performance record gives it a **high pedigree**.

### DESCRIPTION

This is a most excellent cotton to plant under boll weevil conditions as it is productive, early and quick maturing. The fibre is long, silky and uniform, with a good per cent of lint. The bolls, as is true with other Webber cottons, show some resistance to boll weevil puncture as the hull is very thick, hardens up quickly, and is very tough and woody.



## COKER'S PEDIGREED WEBBER 49—Strain 4

**Staple**—Full 1 1-4 to 1 5-16 inches.

**Per cent. lint**—31 to 33 1-3.

**Size Bolls**—Large, ovate, 65 to pound.

**Season**—Early.

**Picking qualities**—Good.

This cotton has fully measured up to our expectations for it. The original plant from which this pedigreed strain or family is descended was chosen in 1915 and has since been grown and thoroughly tested in many sections of the country so that we know it to be a **variety of wide utility**. It is a very satisfactory early long staple, splendid characteristics and productive on all types of soil.

This variety has a recognized place and needs no further recommendation.

**PRICES:** Per bushel \$2.40; ton lots \$2.25 per bushel; 15 ton lots \$2.00 per bushel.

### DESCRIPTION

It has large, ovate bolls, averaging about 65 to pound of seed cotton, which open wide and are easily picked. Lint under good conditions full 1 1/4 to 1 5/16 inches in length, fine and strong. In lint turnout it varies from about 31 to 33 1/3 per cent, depending upon conditions. It is an early cotton, maturing about the same season as our Delta-type Webber, but a little later than Lightning Express. Plant of medium height, more spreading than Deltatype, but of excellent character. This and previous strains of the Webber 49 have recently been the most generally grown cottons in the staple areas of the Mississippi Valley and South Carolina, being very successful where boll weevils exist.



Extra Early Row in 1922 Plant-to-Row Test of Webber 49

## COKER'S PEDIGREED WEBBER 49—Strain 3

**Staple**—1 1-4 to 1 5-16 inches.

**Per cent lint**—30 to 32.

**Size bolls**—Large, ovate, 65 to pound.

**Season**—Early.

**Picking qualities**—Good.

Plant of medium height, moderately spreading in type, but of splendid character. Bolls ovate, large, averaging about 65 to pound of seed cotton, which open wide and pick easily. Lint under good conditions 1 1/4 to 1 5/16 inches long with a turnout of from 30 to 32 per cent. Season of maturity about the same as Webber 49-4 and a splendid cotton for boll weevil conditions.

### VERY MODERATELY PRICED

This strain of the Webber cotton has everywhere proven to be very satisfactory. It is now a well known sort and is **widely grown**. Many growers now have seed of this strain, but our facilities for producing pure seed are better than ordinary and in order that growers may obtain seed of known purity, we are offering this strain again this year at a price within the reach of all planters. If you are going to grow this variety which we originated, you cannot afford to risk getting mixed or off-type seed when we can offer you seed at these low prices.

**PRICES:** Per bushel \$1.75; ton lots \$1.65 per bushel; 15 ton lots \$1.50 per bushel.



## COKER'S PEDIGREED DELTATYPE WEBBER



### DESCRIPTION

Produces a plant of moderate size, with several basal branches of erect type. Bolls large, averaging 61 to pound, elongated, ovate, pointed, 4 to 5 locked, easily picked. Fine, silky, strong lint, and under good conditions  $1\frac{3}{8}$  inches long. Lint percentage averages 32 to  $33\frac{1}{3}$ . Deltatype Webber is later than Lightning Express, but it ranks as an early cotton.

PRICES: Per bushel \$3.75; ton lots \$3.65 per bushel; 15 ton lots \$3.50 per bushel.

Staple—1 5-16 to 1 3-8 in.  
Per cent lint—32 to 33 1-3.  
Size bolls—61 to pound,  
large.

Season—Early.

Picking Quality—Good.

Deltatype Webber is, we believe, the **most superior staple** cotton we have thus far introduced. It is the culmination of years of scientific breeding and we believe it to be the **most prolific and profitable** cotton of its length ever produced. It has stood up well under boll weevil conditions and since its introduction has made our customers more money than any other cotton.

### EXCELLENT RECORDS

Many plantings were made of Deltatype Webber the past season throughout the staple cotton sections and all reports regarding results obtained have been uniformly enthusiastic in support of this variety. Many tests have also been made by individuals and Experiment Stations in all staple sections, which almost invariably showed Deltatype as standing in the **front rank in money value**. Often its standing has been first by many dollars per acre. It frequently yields more seed cotton per acre than most of the short staples.

### RECOMMENDATION

We have no hesitation in recommending Deltatype Webber as a superior long staple cotton especially adapted to cultivation under boll weevil conditions. We recommend that long staple growers plant equal acreages of Deltatype and Lightning Express, as they mature at slightly different periods. This policy will extend the picking season and favor the production of a high grade of staple.



## COKER'S PEDIGREED WEBBER 82—Strain 2

**Staple**—1 1-4 to 1 5-16 inches.

**Per cent. lint**—32 to 33 1-3.

**Size bolls**—65 to pound, ovate, pointed.

**Strong, vigorous grower.**

Since the original introduction of our Webber 82, it has become **very popular** in some sections and certain growers prefer it to our Webber 49 series.

**PRICES:** Per bushel \$1.75; ton lots \$1.65 per bushel; 15 ton lots \$1.50 per bushel.

### DESCRIPTION

Plant rather tall, productive and a strong, **vigorous grower**. Lint uniform in character, 1 1/4 to 1 5/16 inches in length, with a turnout of about 33 1/3 per cent under good conditions. Bolls large, ovate and pointed, averaging 61 to pound. Seed germinate quickly and produce strong, vigorous plants, which grow off rapidly.

## SHORT STAPLE COTTONS

We give the same careful attention to the selection of our short staple varieties as to the long, but here yield and earliness are the main factors instead of staple length. Every year we conduct variety tests of the principal varieties of both long and short staple cottons.

### Pedigreed Coker-Cleveland— Strain 2

**Staple**—7-8 to 1 inch.

**Per cent lint**—38 to 41.

**Size bolls**—Medium large, 64 to pound.

**Season**—Very early.

**Picking Qualities**—Good.

In our strain 2 of the Pedigreed Coker-Cleveland, we have closely approached our ideal of a short staple type. It was developed by the plant-to-row breeding method from the best Cleveland strain within our knowledge. It has shown **superior qualities** ever since the original plant was tested.

### DESCRIPTION

Bolls are comparatively large, round, averaging 64 to the pound. Lint is uniform and pulls a full inch under good conditions and turnout runs from 38 to 41 per cent. Very productive and early. Its early maturity makes this strain a good variety for boll weevil territory. We believe it to be the best strain of the Cleveland Big Boll that has been produced and unhesitatingly recommend it.

The Cleveland Big Boll cotton is the **most popular** short staple cotton planted in the South and the superiority of our pedigree strains over other strains of this cotton we believe will insure the quick sale of these seed at the moderate prices we are asking for them.

**PRICES:** Per bushel \$2.50; ton lots \$2.40 per bushel; 15 ton lots \$2.25 per bushel.

These tests, conducted yearly with scientific precision and impartiality, show up the virtues as well as the shortcomings of all varieties tested. Such tests afford a comparison of the varieties with one another and give an excellent basis on which we can determine relative merits of all.

### Coker's Pedigreed Dixie— Strain 2

**Staple**—15-16 to 1 inch.

**Per cent lint**—37 to 39.

**Size bolls**—67 to pound, medium large.

**Season**—Early.

**Picking Qualities**—Good.

This is the highest yielding strain of the well known Dixie Wilt Resistant we have yet tested; being considerably better than the original Dixie or our Strain No. 1, and much earlier.

### DESCRIPTION

The plant is low, stocky, fruits near the ground, and is very **wilt resistant**. In tests conducted during the last four years it has uniformly given high yields and a large early pick. Bolls, round to ovate and medium large in size, averaging 67 to pound. Lint length under good conditions one inch. Turnout averages 37 per cent. Season of maturity, early. We recommend Coker's Pedigreed Dixie Strain 2 for planting on **wilt infested areas**.

**PRICES:** Per bushel \$2.00; ton lots \$1.90 per bushel; 15 ton lots \$1.75 per bushel.



The sign of quality in cotton circles. The Red Heart means better seed, a better crop and more of it.



## CORN BREEDING WORK

### BREEDING METHODS

Our Ear-to-Row Breeding of corn, while similar to the Plant-to-Row breeding of other crops in principle, varies somewhat as to method of procedure to accommodate the habits of the corn plant. Corn is naturally an open fertilized plant and will not permit of too much inbreeding without a decrease in yield. We are obliged, therefore, to practice a method of breeding which will eliminate, as far as possible, this inbreeding factor. Our method of detasseling the breeding rows, and of pairing the "Ear Remnants" and detasseling again in the Increase Plots, prevents inbreeding and enables us to produce Pedigreed Strains of high yielding corn.

### VARIETIES OF SEED CORN

Every year we conduct variety tests of corn in which we try out all important varieties grown in the South as well as the selected strains of the varieties we are breeding. It is largely on the results of such tests that we base our choice of the varieties we take as foundation stocks for breeding. We also take under careful consideration the reputation that the different varieties have among planters as well as results obtained by experiment stations and their recommendations. We are now conducting breeding work with four varieties, Garrick, Williamson, Ellis and Golden Dent.



**Corn Variety Test**

### HANDLING SEED CORN

Not all of the seed from our pedigreed corn fields is sold. We exercise a rigid selection. Even though a field is grown from our highest pedigreed stock, only about one-fourth is sold for seed. The first choice of seed ears is made when the corn is shucked and the mass of seed corn then chosen is brought to our warehouse where it is conveyed mechanically to bins from which it is taken for reselection, nubbing and grading. A man sits at each bin, examines every ear as it comes down, and if the ear is found to be all right in every respect for seed purposes, places it in the nubbing machine which shells off the small grains from each end of the ear. The ear, still containing the good grain on the middle section, is then dropped into a chute that carries it to the bins from which it passes to the sheller. All poor ears and the grains from the tips and butts of the good ears are sold for feed.

The good corn, after shelling, goes through our large grader and cleaner, where the light or faulty, irregular and broken seed as well as trash are removed. Only the good, heavy, mature and regular sized grains are used for seed. Every lot of seed is carefully tested for germination and is discarded if it does not test above 95 per cent. In no case do we

ship out seed corn which does not show this high vitality.

One of the very best features of our corn is that we allow it to mature normally on the stalk without pulling the fodder or cutting down the plant. Thus all of the seed is fully matured and vital. (Write for special bulletin showing the folly of fodder pulling.)



Our trade mark stands for the nearest approach to perfection that can be attained in seed quality.



## COKER'S PEDIGREE GARRICK CORN – Strain 3

**Grains**—White, flinty, medium deep.

**Cob**—White.

**Prolificacy**—2 and 3 ears (usually 2).

**Season**—Medium to late.

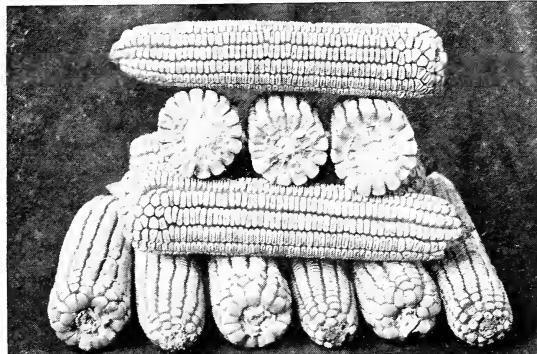
**Weevil resistance**—Excellent.

### ORIGINAL CHARACTERISTICS

The Garrick corn has long been recognized as one of the **highest yielding** and **most widely adaptable** of any of the varieties cultivated in the South. It is more nearly a standard Southern variety than any other and yet ordinarily the kernels are rather soft and shallow and the ears small.

Our breeding work with this variety has been directed toward the elimination of these undesirable characteristics and the production of a high yielding strain. As a result we offer for the first time a new strain which we are designating as **Coker's Pedigreed Garrick Strain No. 3**, descended from our 1920 ear-to-row breeding plot. This strain is very different from the original Garrick. Our records show it to be a higher yielder and the objectionable characteristics have been mostly eliminated.

Prices: 1 peck \$1.50;  $\frac{1}{2}$  bushel \$2.75; 1 bushel \$5.00; 10 bushels and above \$4.50 per bushel.



Ears of Garrick Prolific Corn

### DESCRIPTION

Under good conditions plant is 8 to 10 feet high, vigorous, prolific, 2 to 3 ears (usually 2) per stalk, ears medium large, 12 to 16 rowed with white cob and white, flinty medium deep grains. The hard, flinty nature of the kernel and the good shuck covering of the ear renders it comparatively weevil resistant. This, together with the white cob, white grain and heavy yielding ability, makes it one of the most profitable varieties to grow, both for home use and for milling purposes.



Garrick Breeding Plot



# Better the Seed Better the Crop

## COKER'S PEDIGREED WILLIAMSON CORN—Strain 2

**Grains**—White, deep, with horny, translucent sides.

**Cob**—Red.

**Prolificacy**—1 and 2 eared.

**Season**—140 to 160 days.

**Weevil Resistance**—Excellent.

A superior strain of Williamson Corn, bred from the best selected hybrid ears. Alternate rows were detasseled and only the best select ears from best stalks on detasseled rows taken for a larger increase. The seed of this new strain is descended from these ears and their later best hybrid progeny rows.

### DESCRIPTION

Plants vigorous  $7\frac{1}{2}$  to 10 feet high, 1 and 2 ears to the stalk. Ear height  $3\frac{1}{2}$  to  $4\frac{1}{2}$  feet, shanks medium short. Ears regularly cylindrical, 8 to 9 inches long; averaging about  $2\frac{1}{8}$  inches in diameter, mainly 16 to 20 rowed. Cob of medium size and red. Kernels deep and of medium size. Color white with horny, translucent sides. It shells out about 85 pounds of corn to 100 pounds ear corn.

**PRICES:** 1 peck \$1.50;  $\frac{1}{2}$  bushel \$2.75; 1 bushel \$5.00; 10 bushels and above \$4.50 per bushel.

### GRAIN COLOR

The Williamson Corn with which we started our breeding work in 1908 had grains varying from dark amber to white in color. Until 1918 no attention was paid to grain color; highest yield and best quality being our sole aim. But as a uniform corn looks better and is preferred by most growers, we decided to breed it to a white grain with red cob.

### BREEDING RESULTS

Due to the phenomena of double fertilization in corn (endosperm and germ or xenia) a white grain fertilized with pollen containing any yellow factors will be yellow. Hence white grains, even when borne on same ear with yellow grains, we know to be pure white. Thus by picking white grains from best selected hybrid ears and by continually outbreeding, selecting and testing, we have produced a **uniform white grained red cob Williamson corn**, without losing any of the good qualities of the parent, namely, high yield, wide adaptability, weevil and disease resistance, good feed and milling qualities.



Ears of Williamson Corn

### USE WILLIAMSON METHOD

Against flat planting and early fertilizing, Williamson Method will greatly increase your corn yield. If you don't know what this method is, write for circular fully describing it.

### WILLIAMSON YIELDS

The number of ears per stalk or per acre is not the final test for yield. Other varieties have made two and three times the number of ears, but less actual shelled corn than Williamson.



## COKER'S PEDIGREE ELLIS—Strain 2

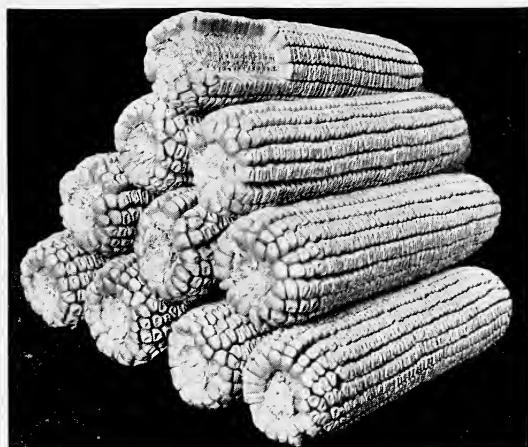
**Grains**—White, deep, with horny, translucent sides.

**Cob**—White, few red.

**Prolificacy**—1 and 2 eared.

**Season**—130 to 150 days.

**Weevil Resistance**—Excellent.



Ears of Ellis Corn

This new strain of our Ellis corn is descended from the highest yielding crossed progenies of our 1920 ear-to-row test. It is superior to its parent strain in yield record both in field and in test plots. It is also more uniform in type and of better quality.

Reports from growers in many sections indicate that the Ellis does well on many different types of soil. Our breeding work with this variety has all been done on our Highland Farm, the soil of which is very poor, coarse, Norfolk sand. On this farm we make about 50% higher yields with the Ellis than with any other variety tried there. While the type and manner of growth especially fits it for growing on light soils, yet it stands with the best in our variety test where the soil is good.

### DESCRIPTION

Plant low and stocky. 1 and 2 ears to stalk. Ear height about 2½ feet. Shanks medium short. Ears cylindrical, 7 to 8½ inches long, about 2¼ inches in diameter and mainly 16 to 18 rowed. Cobs of medium size, mainly white, few red, not pure in this character. Kernels white or cream colored, deep, hard and flinty. Very weevil resistant. PRICES: 1 peck \$1.50; ½ bushel \$2.75; per bushel \$5.00; 10 bushels and above, \$4.50 per bushel.

## COKER'S IMPROVED GOLDEN DENT

### Bred by Mass Selection (Not Pedigreed)

Every year we have requests for an early maturing corn to plant for early stock feed or roasting ears or to plant following small grains.

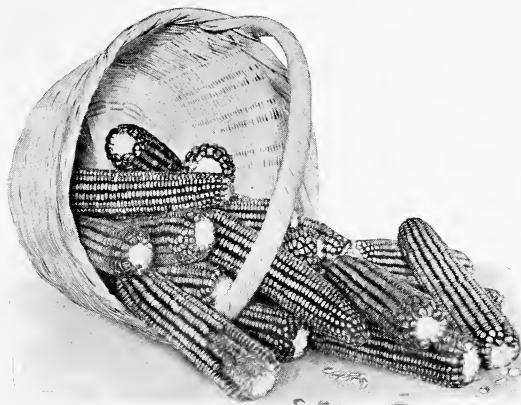
In carefully conducted variety tests, we found that Golden Dent is the variety that would more nearly fill all such demands as it has uniformly made the best yield of sound corn of any of the early varieties. Accordingly we secured seed in spring of 1921 from H. G. Hastings Seed Company and planted a large increase field.

Late in the season we carefully field selected our planting seed, taking only the weevil free ears from desirable stalks. From this seed stock our Improved Golden Dent is grown.

### DESCRIPTION

Ears cylindrical, 6½ to 8½ inches long. Grains thick, medium deep, with very large germs. Has dimple dent with light yellow caps and dark yellow, translucent, horny sides. The large germ, together with the high vitamin content, makes this corn very high in feeding value.

PRICES: 1 peck \$.80; ½ bushel \$1.40; per bushel \$2.50; 10 bushels and above \$2.25 per bushel.



Ears of Golden Dent Corn



The value of seed is proven by the confidence shown in the liberality of the guarantee behind the goods. This trade mark speaks for itself.



Better the Seed Better the Crop

## COKER'S PEDIGREED CHESTNUT SORGHUM (A New Variety)

**Heads—Large, compact.**

**Seed—Large, brown, 1-3 to 1-2 exposed.**

**Stalks—Tall, medium small and sweet.**

**Season—Very early.**

**Keeping qualities—The best.**

**A valuable new sorghum. Distinctly different from any other commercial variety known.** Originated by us and offered this year for the first time. While descended from Early Amber, yet it is so very different that to call it even a strain of Amber would be misleading.



**Heads of Coker's Pedigreed Chestnut Sorghum**

### PEDIGREE

Its pedigree dates back to head selections made in an Early Amber field in 1910. Coker's Chestnut is from a very striking progeny in a head-to-row test of this variety in 1919—its seed yield being 89.6 bushels per acre and green forage yield 11.29 tons.

### YIELDS

Coker's Chestnut Sorghum in 1921 variety test produced 18.4% more seed than Early Amber, 54.5% more than Early Orange and 30.1% more than Sumac. Green forage yield was 44.1% more than Early Amber and 45.1% more than Sumac.

### DESCRIPTION

Heads of Coker's Chestnut Sorghum are large, long, cylindrical and compact. Seed are large, one-third to one-half exposed and of dark brown or chestnut color. Stalks are tall, medium small, juicy, sweet and keeping qualities after maturity are the best. Unlike Early Amber, the glumes mostly shed in threshing, giving a nice clean seed sample.

### USES

Coker's Chestnut is the best sorghum we know of for grain and forage purposes. When sown very thick broadcast it makes an excellent hay much relished by cattle and horses. Also good to sow with cowpeas for forage. Heavy crops of both seed and feed can be raised when sown in rows after small grain and cultivated; excellent feed for cattle and chickens, fine for ensilage, horses, mules and hogs.

### SEEDING

Plant in succession April 1st to August 16th. There are over 19,000 seed of Coker's Chestnut per pound. If planted in 3 foot rows and hills 6 inches apart, 2 to 3 pounds per acre will be sufficient for seed production.

(Contrary to general belief, sorghum is a soil improver for heavy soils and soils deficient in humus.)

**PRICES:** 1 to 5 lbs., 50c per lb.; 5 to 10 lbs., 40c per lb. Larger quantities quoted on request.

We have only a moderate quantity for sale.



## COKER'S PEDIGREED ASPARAGUS

### Washington and Mary Washington Strains.

The Pedigreed Seed Company is maintaining a source of **pure seed** of the celebrated rust resistant strains of Washington and Mary Washington Asparagus developed by Professor J. B. Norton while with the United States Department of Agriculture. Our seed fields are under his personal supervision and are the best source of stock seed for nurseries, seed dealers and large growers.

The **Washington strains** that we have were developed on our farms in cooperation with the Government from the best plants in the experimental field at Concord, Mass., to provide a source of seed unmixed with inferior strains.

Our **Mary Washington** breeding area, the only large plot of first generation plants of this strain anywhere, is carefully isolated and each plant was carefully selected by the originator. Our isolated seed field of forty acres of carefully selected plants grown from the breeding field, is the source of pure seed of this wonderful strain for the seed trade.

To those who wish asparagus for their home garden, there can be nothing better than our carefully selected **one year old** Mary Washington roots grown for breeding stock. They will give the best asparagus bed that can be obtained and one that the owner can be as proud of as of his pedigreed poultry and dairy cattle.

Write for bulletin on Washington Asparagus.

### PRICES

Pedigreed Washington Asparagus Seed—prices postpaid: Packet 25c, 1 oz. 40c,  $\frac{1}{4}$  lb. \$1.25,  $\frac{1}{2}$  lb. \$2.25, 1 lb. \$4.00, 5 lbs. and above \$3.50 per lb.

Reselected Pedigreed Washington Asparagus Seed—prices postpaid: Packet 30c, 1 ounce 50c,  $\frac{1}{4}$  lb. \$1.75,  $\frac{1}{2}$  lb. \$3.00, 1 lb. \$5.50, 5 lbs. and above \$5.00 per lb.

Pedigreed Mary Washington Seed—prices postpaid: Packet 60c, 1 oz. \$1.00,  $\frac{1}{4}$  lb. \$3.50,  $\frac{1}{2}$  lb. \$6.00, 1 lb. \$10.00, 5 lbs. and above \$8.00 per lb.

Pedigreed Washington Asparagus Roots—prices not prepaid: 50---\$1.35, 100---\$2.50, 500---\$10.00, 1000---\$16.75, 5000 and above \$15.00 per thousand.

Selected Pedigreed Mary Washington Roots (Breeding stock; seed from original first generation Mary Washington). Prices not prepaid: 50---\$3.50, 100---\$6.00, 500---\$27.50, 1000---\$50.00 per thousand. Not over 5000 to any one customer.

**The Best High Producing, Tender, Green Asparagus for Market and Home Use.**



**Eleven Inch Bunch of Pedigreed Washington Asparagus**



## DIAMOND NITRATE OF SODA AND FERTILIZER DISTRIBUTOR

(For Side Applications)

This machine grinds nitrate of soda and other fertilizer into pea size and evenly distributes 80 lbs. to 600 lbs. per acre covering either one or two rows at each trip.

Each lump is ground into small particles, divided and equally fed to two distributing spouts. The spouts and the wheels are readily adjustable to different width rows so that the fertilizer is placed just where it is wanted. A shut-off prevents waste when turning at end of rows. The exceptionally light draft allows one mule to easily cover 15 to 16 acres per day.

In eliminating the present unsatisfactory and expensive method of crushing and distributing soda by hand and evenly proportioning its proper ration of fertilizer to each plant in the field, the Diamond will pay for itself in a very short while.

We have used these machines on our farms for two years and they have already saved us many times their cost. Many visitors seeing them at work here and recognizing their great value have bought them

from the manufacturer, with whom we had no sales contract until recently. We have recently secured from the manufacturer exclusive sales rights for this machine. We have thoroughly tested it and can unqualifiedly recommend it as a big money saver in the side application of fertilizers of all kinds but especially for nitrate of soda and other lumpy materials. It is the class of machine we can put our well established reputation behind without fear of results.

This machine will be welcomed by the planters of the Mississippi and Arkansas deltas where recent experiments have proven that moderate applications of nitrate of soda will greatly increase crop yields.

The present output of the manufacturer is limited so we urgently suggest that you send in your order at once. All orders will be filled in sequence of their receipt. The price is \$30.00 f. o. b. Cheraw, South Carolina.

Send orders to Pedigreed Seed Company, Hartsville, S. C.

### PULVERIZES AND DISTRIBUTES IN ONE OPERATION



*Pays For  
Itself in a Short  
While*

Even Distribution  
Thorough Pulverization  
Uniform Grinding  
Easily Adjustable  
Covers Either One or Two  
Rows at One Operation  
Distributes From Side  
Adjustable to Varying  
Width of Rows  
No Waste  
Light—Pulled by 1 Mule  
Covers 15 to 16 Acres per  
Day.

—THOROUGH DISTRIBUTION AT LOWEST COST—



## COKER'S SPECIAL "CLIPPER" SEED CLEANER AND GRADER

Removes all light, immature and worthless seed and all trash and foreign matter—by double screens and vertical air blast method. The most effective seed grader on the market. DOES EFFECTIVE WORK with all Southern seeds, including Wheat, Oats, Rye, Barley, Cotton, Corn, Peas, Sorghum, Soy Beans, Burr Clover, Kaffir Corn, Vetch, Milo Maize, Alfalfa, Millet, Rape, Crimson Clover, Onion Seed, etc. All "Coker's Special Clippers" are furnished complete, fitted with an assortment of TWELVE SCREENS specially selected for Southern seeds.

### COKER'S IMPROVED NO. 22-B CLIPPER SEED CLEANER

A recently perfected improved model specially designed for cleaning and grading cotton seed. Also cleans and grades other seeds, grain and beans. The most perfect model seed cleaner for the Southern farmer.

**NEW FEATURES:** Force feed roller, adjustable, to insure even feed of cotton seed; clutch throwout for feed roller; double grooves for changing elevation of lower screen.

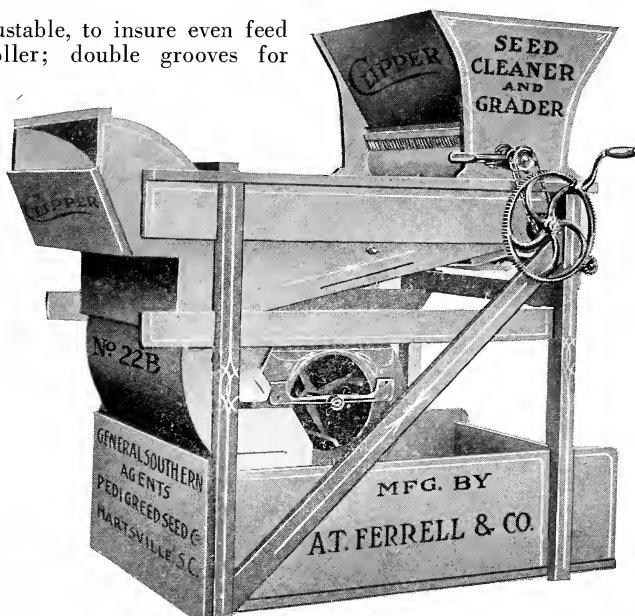
- Simple in Construction.
- Easy to Operate.
- No Complicated Parts.
- No Extras.
- Will Last Indefinitely.
- Operates by Hand or Power.

COKER'S IMPROVED No. 22-B CLIPPER CLEANER, equipped with 12 screens, crank pulley for hand operation and power pulley for operation by engine, COMPLETE, net cash, f.o.b. Hartsville, S. C. .... **\$51.00**

### OTHER MODELS

COKER'S SPECIAL No. 2-B CLIPPER CLEANER equipped with 12 screens, crank pulley and power pulley, f.o.b. Hartsville, S. C. Price Cash with Order..... **\$42.75**

COKER'S SPECIAL No. 1-B CLIPPER CLEANER equipped with 12 screens and crank pulley, f.o.b. Hartsville, S. C. Price Cash with Order ..... **\$35.25**



**Our Guarantee** Try out any of the above machines for thirty days and if not satisfactory in every respect, ship it back and get your money.

In tests conducted by the Department of Agriculture, (Bulletin No. 285), cotton seed properly graded, made an increased yield of 103 pounds seed cotton per acre in one test and an increase of 88 $\frac{3}{4}$  pounds in another test against the same seed not graded. These results speak for themselves.

For further information, write for our special bulletin describing "Coker's Special Clipper" Cleaners.

**Pedigreed Seed Company, Hartsville, S. C.**

GENERAL SOUTHERN AGENTS

For North and South Carolina, Georgia, Florida, Mississippi, Alabama, Louisiana and Arkansas.

Jacobs & Co., Clinton, S. C.



## A FINAL WORD FROM OUR PRESIDENT

In reading the final proofs of this catalog before going to press the question came into my mind, "What will our new strains of seed be worth to the South?"

Our Webber cotton, introduced into the Delta at the time when the weevil had nearly destroyed the staple industry, met and partially defeated the weevil, restored the industry and made millions of dollars for the Delta planters. Our new Deltatype Webber and Lightning Express have already proven their value and the acreage in these cottons is rapidly expanding because the growers are finding them profitable. Our pedigreed Abruzzi Rye has filled a long felt need for winter pasture and heavy grain yield and it is almost the only rye now planted in the eastern cotton belt.

The success of our early introductions makes me confident that the new strains we are now offering will also prove of great value. Years of careful scientific work and thousands of dollars of expenditure are necessary for the production of each new strain.

The value of every crop you grow depends largely on the parentage of your seed stock. Pedigree (which means the performance records of the parents of the strain) counts just as much in plants as in animals. What would you think of a herdsman who offered Guernsey cattle as pedigreed stock and yet who kept no records of the milk or butter-fat yield of his cows and knew little of the record of their ancestors? Yet many seedsmen offer seed as pedigreed although they cannot personally testify to their purity and know little or nothing of the ancestry of the strain.

We are doing a tremendous lot of plant breeding and pure experimental work at Hartsville. Our breeding work is for but one purpose—to find the single best plant in each generation of each variety and to increase the seed from that one plant for distribution. (In corn breeding we must find several best individuals and combine them, and in asparagus breeding we must find superior male and female parents.) Such work is of incalculable value to agriculture and must be recognized and appreciated if agriculture is to advance.

We invite our customers to come to see us. If you are most interested in crops maturing in early fall (as cotton and corn) come from August 20 to October 1st. If principally interested in wheat, oats and rye, come in May. Hundreds do come every year and learn much of farm methods and management that we have no space in this catalog to tell of. Our boll weevil experiments attracted much attention and drew hundreds of visitors this summer, proving of great value to many farmers in the Carolinas.

Come to see us.

Yours very truly,  
DAVID R. COKER,  
President.

## BUSINESS TERMS

**LOCATION**—General Office and Seed Breeding Farms located at Hartsville, Darlington County, South Carolina, on the Atlantic Coast Line and Seaboard Air Line Railways.

**VISITORS INVITED**—We welcome visitors who are interested in the work we are doing, and, if notified in time, will meet them at the station on arrival. Many visit us each year—many from distant states and foreign countries.

**PRICES**—Our prices are cash with order. If remittance is not sent with order, it means a delay until we can write and receive the amount. Customers who have established their responsibility may have shipments made with sight draft attached to bill of lading. We make no special prices or reductions. We believe our seeds are worth what we charge for them, to one the same as another.

**REMITTANCE** may be made by personal check, bank check, money order, cash or stamps. We are not responsible for your remittance or order until it reaches us.

**TEN PER CENT. DEPOSIT**—On all cotton seed orders booked prior to December 1st for spring shipment we require a ten per cent. deposit of the total amount of the order to be made on or before December 1st. On orders placed after December 1st, for later shipment, a ten per cent. deposit is required with order. Customers who have established their responsibility may place their orders for immediate shipment with sight draft attached to bill of lading.

**METHOD OF SHIPPING**—Small shipments to a distance are usually cheapest by Express or Parcel Post. If you are not sure about cheapest way to have shipment made, send us a sufficient amount to pay charges and we will send cheapest way and return to you any balance after paying charges. Large shipments are always cheapest by freight.

**PREPAY STATION**—If your station is a prepay freight station, the amount of freight charges must be added to your remittance. Shipments to prepay stations cannot be made order notify.

**OUR RESPONSIBILITY**—Our seed are all carefully tested for germination and purity before they are sent out. Attached to every bag of seed we ship is a card on which is printed the percentage of germination and purity of that particular lot of seed. In no case do we ship seed that do not measure up to the highest standard. However, under no circumstances will we be responsible for the germination of seed after they have been planted as there are many reasons for imperfect germination of planted seeds other than their vitality, and, in no case do we give any warranty, expressed or implied, as to descriptions, quality or productivity of our seed. If customer does not accept seed under these conditions they are to be returned at once.

**YOUR RESPONSIBILITY**—Examine your seed when you receive them and test them in any way you see fit. If, for any reason, they are not satisfactory, they may be returned to us within ten days after they are received, in the original package, at our expense, and we will refund entire purchase price. Customers must accept all responsibility for seed which have been in their possession more than ten days as the vitality of any seed may be lessened or killed after leaving our warehouse by subjection to moisture, heat, brine, chemicals, etc. Read carefully conditions stated under the caption "Our Responsibility."

**WHEN THE SEED ARRIVE**—Our seed are put up in substantial bags and delivered to the railroad in good order. When seed arrive in bad order, do not accept the shipment or pay the freight until your station agent makes a statement to that effect on your received freight bill. Send this freight bill to us and we will make claim and collect it from the railway company for you.

**OUR CLAIMS**—We make no claims which our seed do not prove; we give the best quality seed that careful and expert breeding can produce; we exercise a personal care in handling our seeds at every point, recleaning and eliminating all except the strong and vital; we sell only such as are of the highest standard germination and purity and we give actual percentage figures of every lot.

**YOUR PROTECTION**—Our seed are all sent out in bags labeled "Coker's Pedigreed Seed" and bearing our Registered Trade Mark. Each bag also bears the O. K. tag of our President and is officially sealed before leaving our warehouse. No seed is genuine "Coker's Pedigreed Seed" unless it bears our official O. K. under seal and our Registered "Trade Mark." Protect yourself by insisting upon having only seed bearing our official O. K. tag and Registered Trade Mark.

**PEDIGRED SEED COMPANY**

David R. Coker, President,

HARTSVILLE, S. C.



COPYRIGHT 1923

BY

PEDIGREAED SEED COMPANY  
HARTSVILLE, SOUTH CAROLINA